

New York State Department of Transportation

Yellow Flag NB2228W012

By: Ben Colangelo

Flag Date: March 23, 2022

Superseding Information:

This flag supersedes: YF NB2158W017

Structure Information

BIN: 1065318

Feature Carried: 278I278IX2M23027

Feature Crossed: 6TH AVENUE

Orientation: 8 - NORTHWEST

Region: 11 - NEW YORK CITY

County: KINGS

Political Unit: City of NEW YORK

Approximate Year Built: 1962

Posted Load Matches Inventory : Yes

Bridge Load Posting (Tons) : Not Posted for Load

Primary Owner: New York State Department of Transportation

Primary Maintenance Responsibility: 12 - State - Subcontracted to another Party

Typical or Main Span Type: 3 - Steel, 02 - Stringer/Multi-Beam or Girder

This Bridge is not a Ramp

Number of Spans: 322

Verbal Notification Information

Person Notified: Heinz Joachim, P.E.

Date: March 23, 2022 1:30:00 PM

Of: NYSDOT Region 11

Signature Information

Signature: Ben Colangelo, P.E. 068498

Date: April 18, 2022

Reviewed By: Robert Kemp

Date: April 18, 2022

Attachments: 6

Flagged Elements

Parent Element	Element	Total Quantity	Unit
Span Number : 119			
	107 - Steel Open Girder/Beam	781	ft
	PR831 - Steel Beam End	34	each

Flagged Condition Description

This Yellow Flag No. NB2228W012 supersedes Yellow Flag No. NB2158W017.

Location: Span 119 Girder G13 at Pier 118

Description: The end of Girder G13 in Span 119 at Pier 118 exhibits severe corrosion resulting in an overall web bearing area section loss of approximately 45% (previously 40%) and an overall shear web area section loss of approximately 65% (previously 64%, no significant change) with an overall localized section loss of approximately 38% (previously 32%) for 5" L x 6" H area directly above the bearing below the guide angle (Photos 2 and 4). This is a small increase in section loss due to a change in dimensions. The end of the girder web exhibits 13" L x 1" W corrosion hole approximately 7" from the bottom flange (Photo 3). Also, the lower web of the girder adjacent to the web bearing area exhibits average section loss up to 30% for 18" L x 3" H above the bottom flange. (Refer to sketch for more details)

This girder is located above an expansion bearing.

Notes:

1. The adjacent Girder G12 has previously installed steel reinforcement plates and angles at the end of the girder.
2. The adjacent Girder G14 exhibits up to 25% localized section loss in the lower web above the bottom flange in front of the bearing.
3. The left guide angle of Girder G13 exhibits 13" L x up to 2" W corrosion hole starting at the bottom of the angle. The right guide angle exhibits three corrosion holes for 3" H x 2" W, 1" diameter, and 2" H x 1" W. In addition, the guide angles exhibit 1 out of 3 sheared off bolts.
4. The flagged condition is located above the left lane on 3rd Avenue EB roadway and was accessed using 30ft bucket truck with double left lane closure.

Flag Photographs

Photo Number: 1

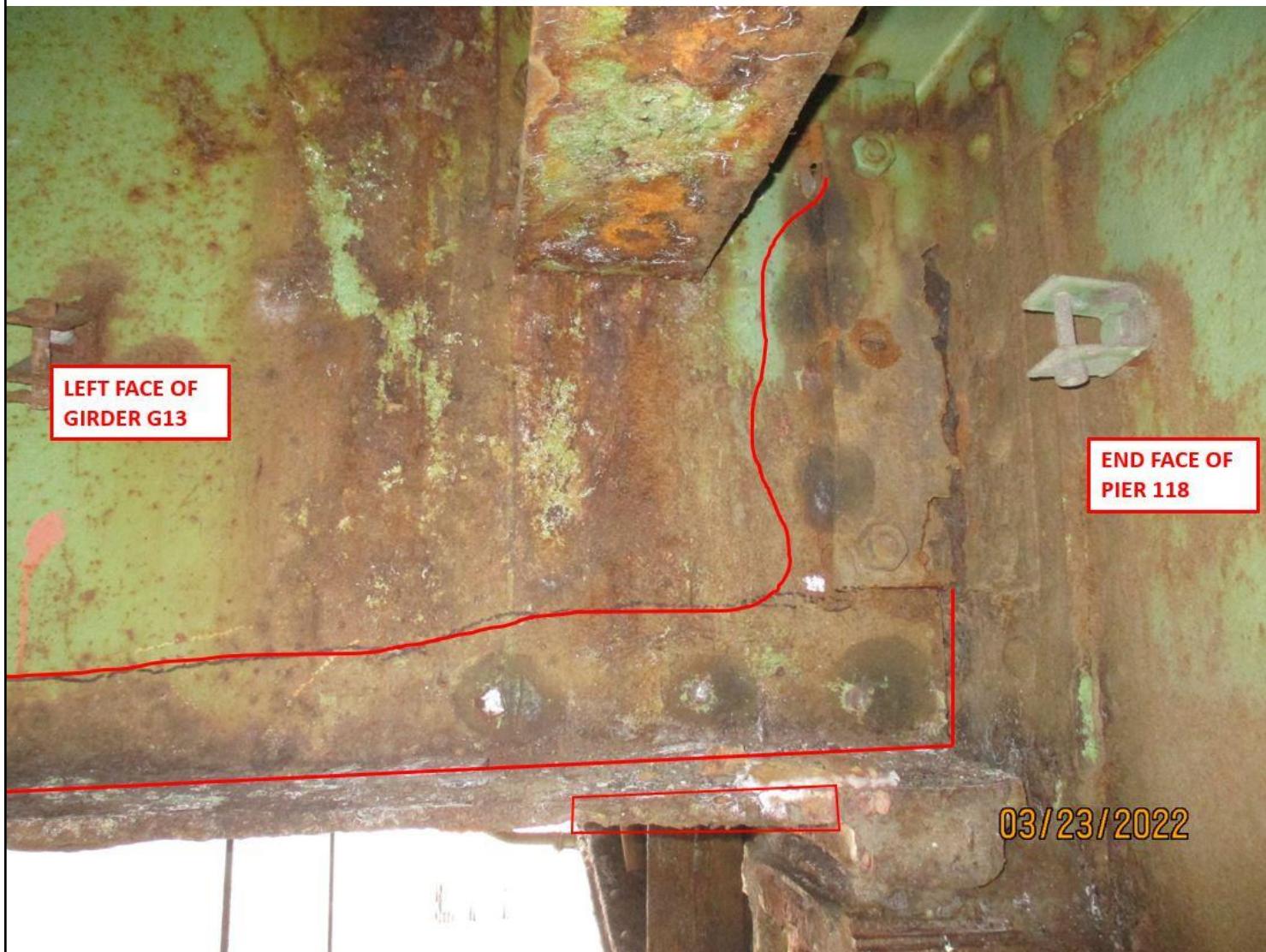
Photo Filename: 307-3291.JPG



Attachment Description: General view of the flagged condition at Girder G13 in Span 119 at Pier 118. Looking Begin.

Photo Number: 2

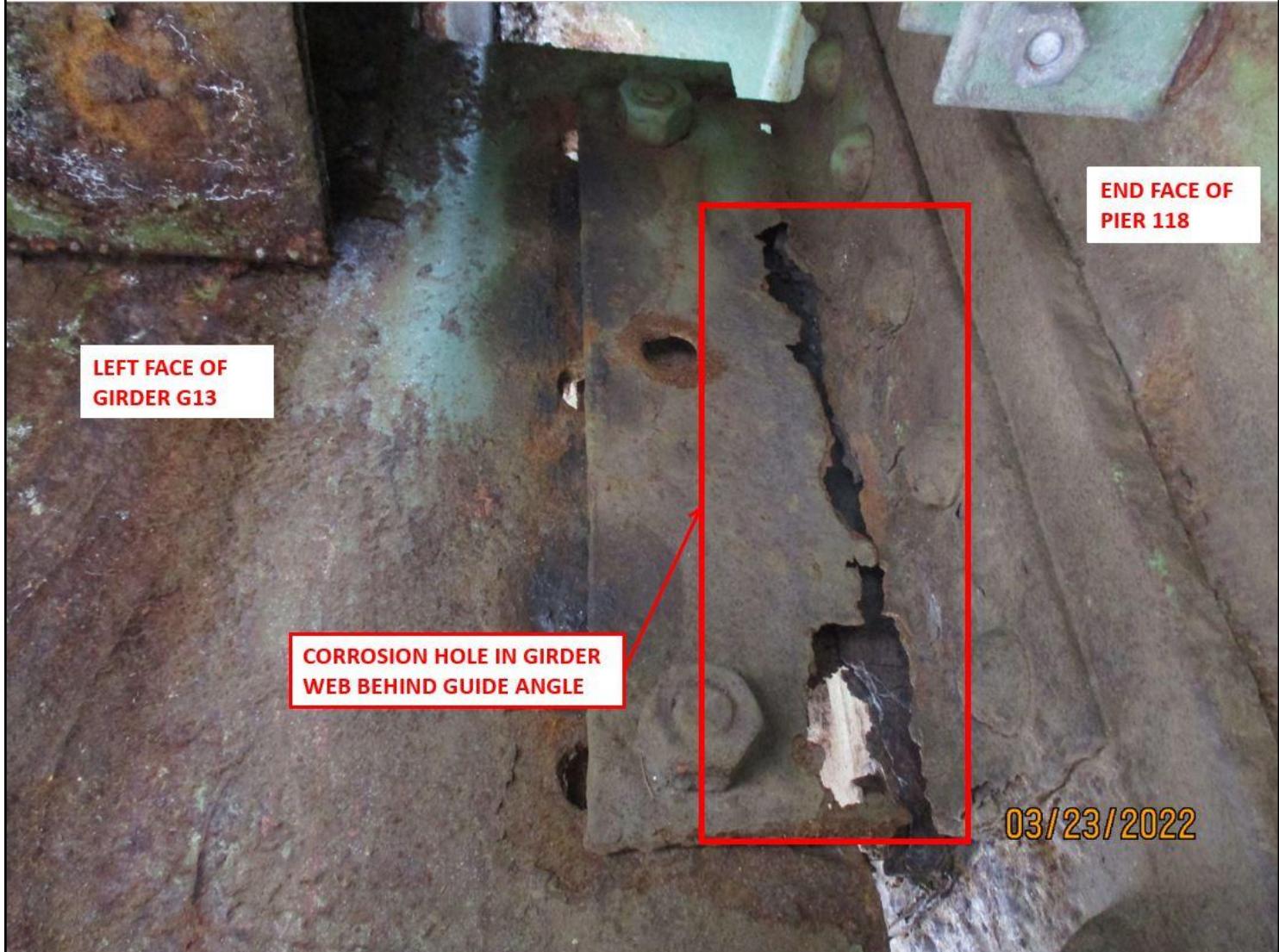
Photo Filename: 307-3285.JPG



Attachment Description: The left face of Girder G13 in Span 119 at Pier 118. The end of the girder exhibits severe section loss at the lower web above the bottom flange and web adjacent to the guide angle. Looking Right.

Photo Number: 3

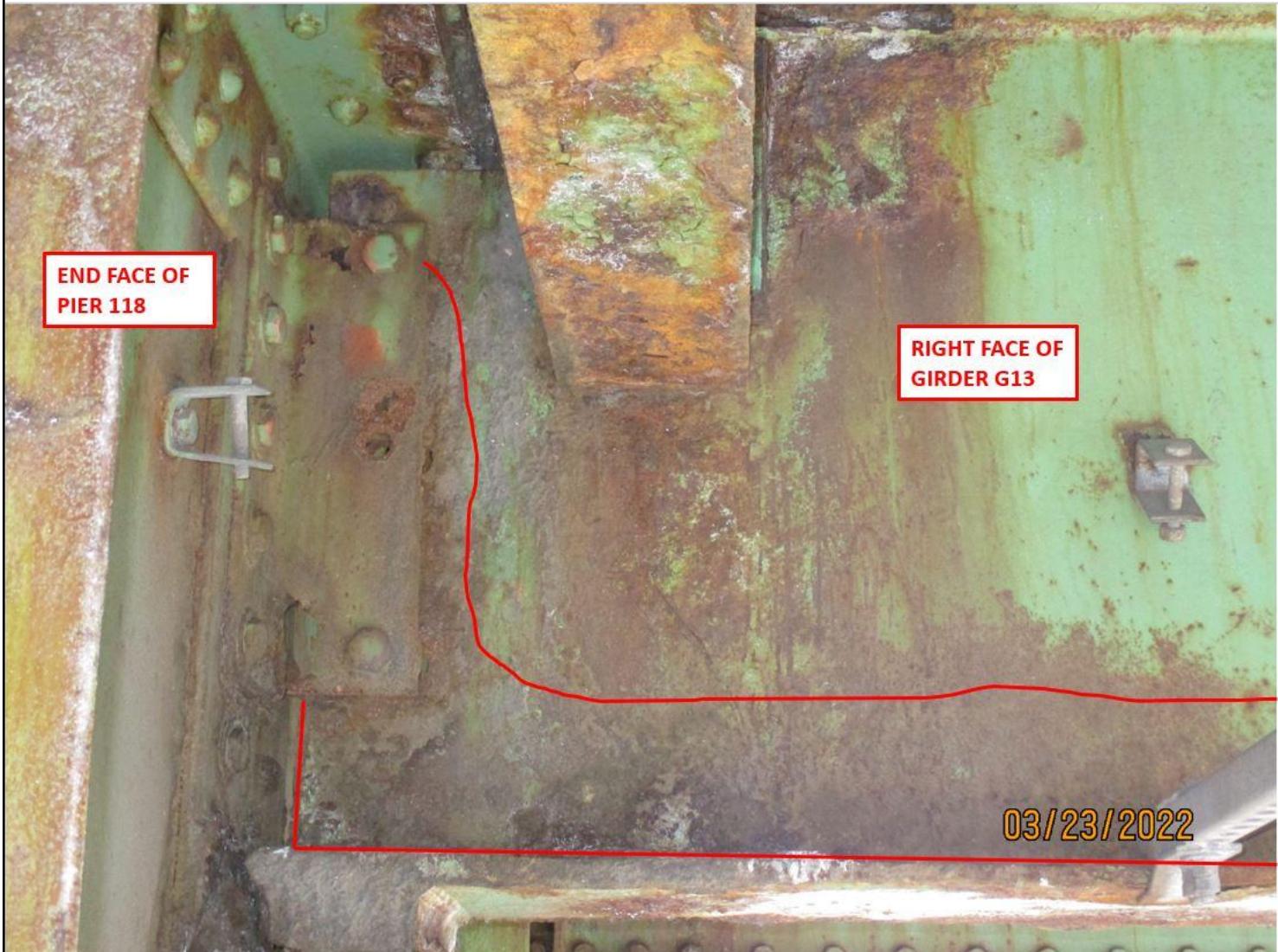
Photo Filename: 307-3272.JPG



Attachment Description: The left face of Girder G13 in Span 119 at Pier 118. The end of the girder web exhibits a corrosion hole behind the guide angle. Looking Right.

Photo Number: 4

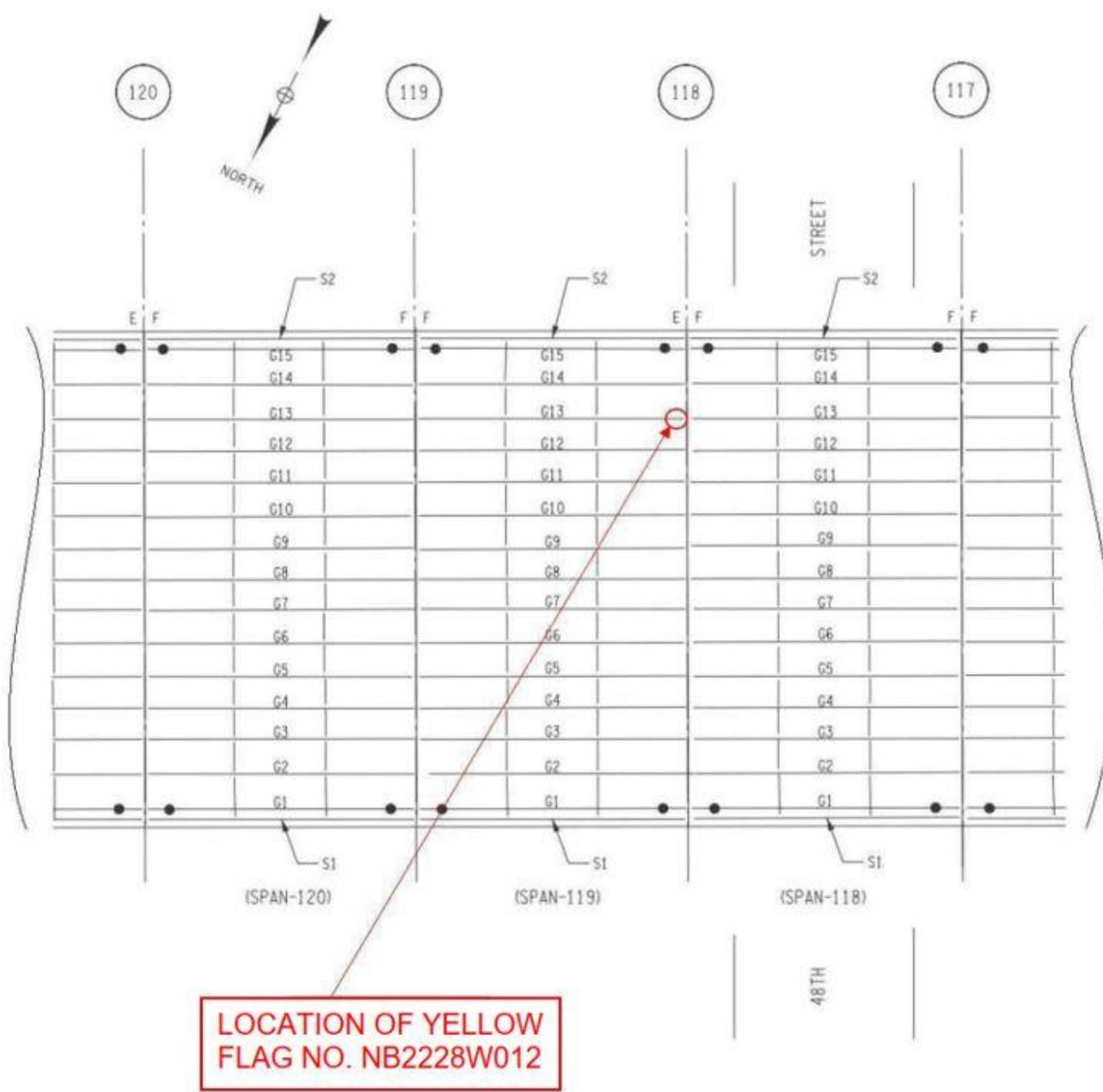
Photo Filename: 307-3287.JPG



Attachment Description: The right face of Girder G13 in Span 119 at Pier 118. The end of the girder exhibits severe section loss at the lower web above the bottom flange and web adjacent to the guide angle. Looking Left.

Photo Number: 5

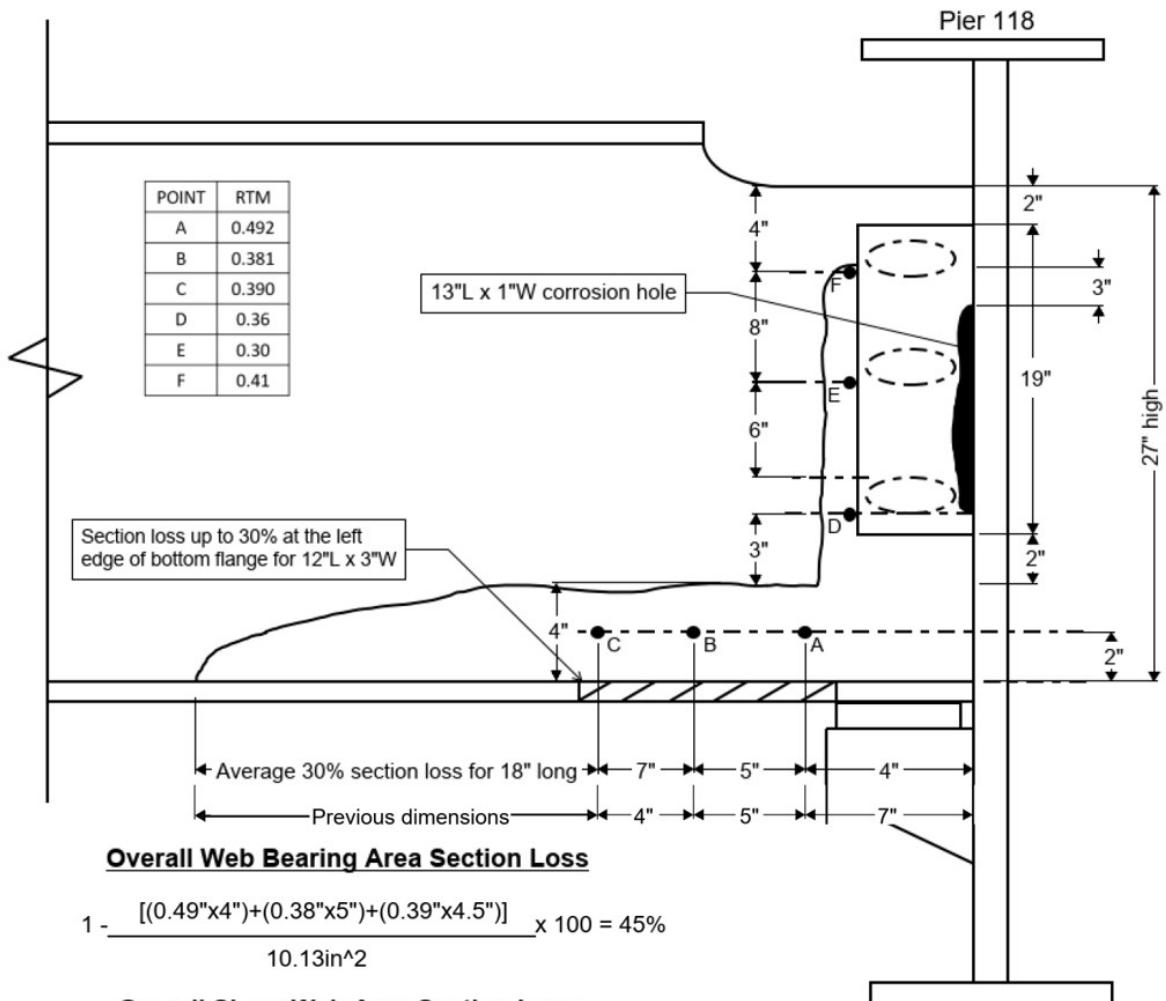
Photo Filename: FRAMIN PLAN.JPG



Attachment Description: BIN 1065318, Framing Plan Spans 118-120

Photo Number: 6

Photo Filename: SPAN 119 G13 AT PIER 118 SKETCH_R2.jpg

Overall Shear Web Area Section Loss

$$1 - \frac{[(0.49 \times 4) + (0.36 \times 3) + (13 \times 0) + (0.41 \times 3) + (0.75 \times 4)]}{20.25 \text{ in}^2} \times 100 = 65\%$$

Notes:

- As-built web thickness = 0.75"
- Length of bearing area = $18 \times$ web thickness = $18 \times 0.75" = 13.50"$
- Overall bearing area = $13.50" \times 0.75" = 10.13 \text{ in}^2$
- As-built shearing web area = $27" \times 0.75" = 20.25 \text{ in}^2$
- Adjacent Girder G12 has previously installed steel reinforcement plates and angles at the end of the girder.
- Adjacent Girder G14 exhibits up to 25% localized section loss in the lower web above the bottom flange in front of the bearing.
- Left guide angle at Girder G13 exhibits 13" L x up to 2" W corrosion hole starting at the bottom of the angle. This defect was not shown in the sketch for clarity purposes to display girder defects.

Left Face of Girder G13 Sketch in Span 119 at Pier 118
N.T.S.

Attachment Description: Sketch of Span 119 Girder G13 at Pier 118